AP

WIREPHOTO

Miracle of Modern News Gathering

For publication and licensing inquiries, please contact
The Associated Press Corporate Archives:
https://www.ap.org/about/corporate-archives/

The story of WIREPHOTO, how it began, how it works, prepared by The Associated Press to meet many requests.

June, 1939

I

The hands of the clock pointed to the end of 1934, the birth of a new year and the beginning of a new era in American journalism.

Tired engineers in the New York office of The Associated Press, sleeves rolled up, made tests and adjustments on a neatly arranged panel containing mysterious bulbs, wires and indicators with wavering needles.

Around them stood staff men, officials and curious visitors, grimy copy boys and smartly turned out New Year revellers in top hats and tail coats, radio announcers and movie film men. They made up a crowd never before seen at the nerve center of the huge network of Associated Press wires.

In the midst of a New Year Eve celebration, equipment strange to newspaper offices had drawn their attention. On a table was a machine holding a photograph wrapped around a horizontal cylinder. Nearby was the panel of bulbs and indicators and in addition a telephone and loudspeaker.

Associated Press WIREPHOTO was ready for inauguration after months of preliminary work, after years of search for the one system to transmit pictures by wire that was quick, sure and constant. No longer would news pictures lag days behind the events they portrayed. Now news and pictures would ride the wires side by side for simultaneous publication by scores of alert newspapers.

The AP engineers and laboratory technicians crowded around the machines. Visitors unconsciously talked in whispers.

The time approached for the start—1 a.m. January 1, 1935. Appropriately the first picture was big news, an airview of an airplane that had crashed deep in the Adirondack Mountains in northern New York.

Searchers had hunted afoot and by air for days in a frantic search to find the plane's pilot and passengers before numbing cold made their rescue futile. The story was "page-one" everywhere.

The technicians put the picture on the cylinder of the sending machine, a big photo half the size of an ordinary newspaper page.

Out across the nation—in Chicago, San Francisco, Kansas City, Omaha, Syracuse and Philadelphia, in 24 cities—AP experts made ready their receiving machines.

A man at the switchboard in the New York office spoke into a telephone and from out of the loudspeakers in the two dozen cities came his announcement:

"New York calling all points. Are you ready? The first picture will be an air shot of the plane lost in the Adirondacks."

"Ready," piped Chicago.
"Ready," drawled the man in Atlanta.

"All set here," from San Francisco.
"Okay, New York," from Syracuse.

Roll call was completed. A switch clicked. The cylinder that was to revolutionize American journalism began to turn and the picture was on its way over the wires to papers 100 to 3,000 miles away.

Eight minutes later in each of the 24 newspaper offices on the network WIREPHOTO attendants picked similar cylinders off their receiving machines and hurried into darkrooms. Another few minutes and the finished print, a reproduction of that on the sending machine in New York, was in the hands of editors around a 10,000 mile circuit. The transmission was perfect. WIREPHOTO had passed its first test.

II.

Nearby stood Kent Cooper, general manager of The Associated Press. He had little to say, but that moment when WIREPHOTO first began operation brought to him the thrill that comes when success culminates years of planning, years of dreaming that began almost when he was a boy.

For it was when The AP's general manager was a youngster working on his home town paper in Indiana that the idea of pictures as news first took root. In his childhood he had amused himself with a stereoscope to view post card pictures, and later he was to ask:

"If people believe what they see, why can't newspapers print pictures of news events in columns right beside the stories of those events?"

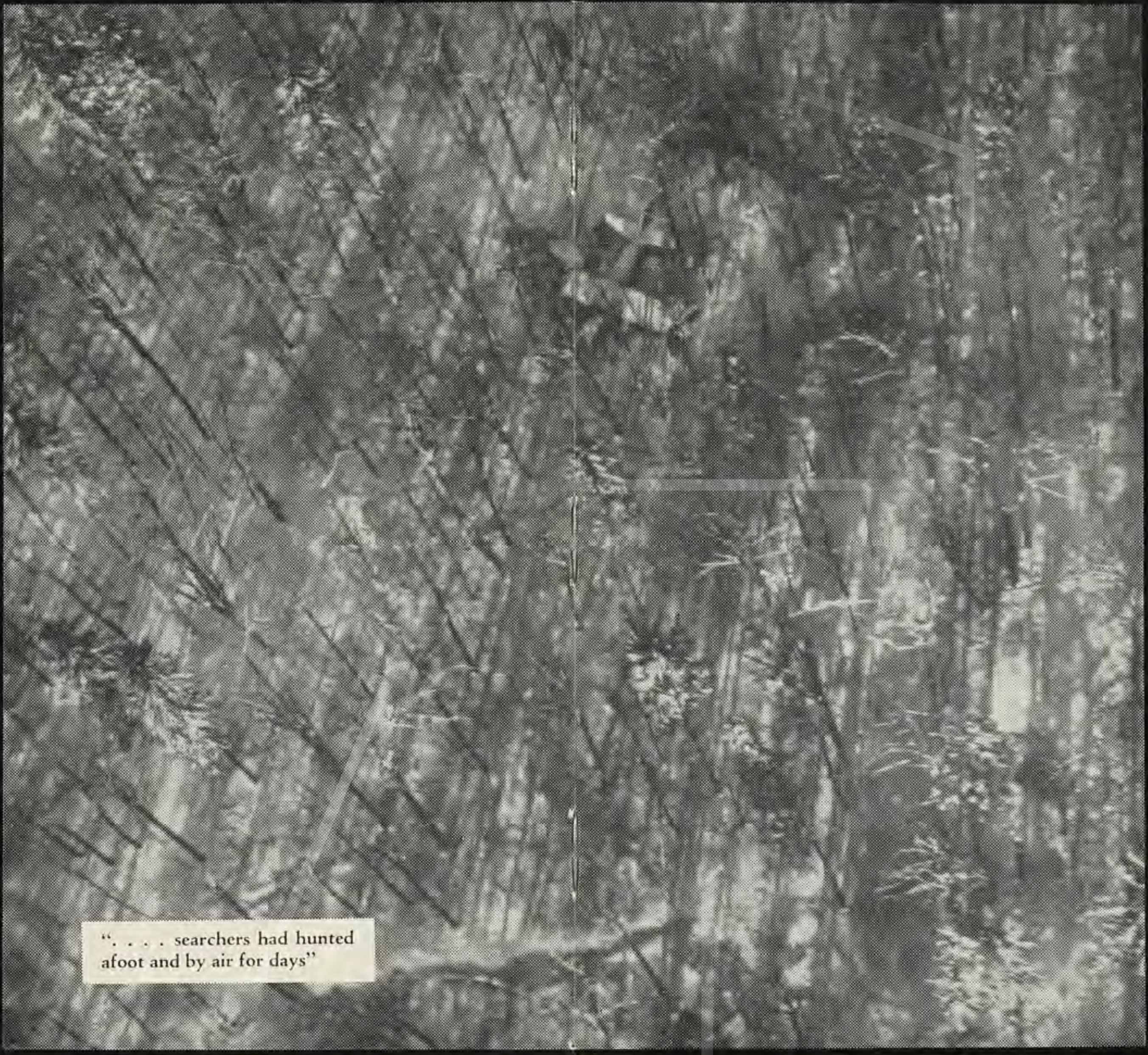
He pondered this many times as he watched the development of news photography, then in its infancy.

By the time he became general manager of The Associated Press in 1925 news pictures were an essential part of newspaper practice. The development of aviation offered a means of speeding delivery to some extent, but the big need was for a mechanism that could send pictures by wire, just as news was sent.

Shortly after Cooper assumed the general managership the Board of Directors of The Associated Press authorized that a News Photo Service be set up with personnel independent of the News staff to collect and distribute pictures as news. With the growing popularity of pictures the need then came for a mechanism which would eliminate the days lost in slow delivery.

Various developments were proposed, tried and rejected because the quality of reproduction was poor. Then, from Bell Laboratories came the system that was to be WIREPHOTO. The day arrived six years after The AP entered the news photo field and arrangements were made for The Associated Press to take over the mechanism.

WIREPHOTO was a success from the start, and hardly had the first picture gone out over the network of wires that New Year's Eve than messages of congratulation began to arrive both for Cooper and for Frank B. Noyes, publisher of the Washington Star and president of the non-profit cooperative.



". . . . searchers had hunted afoot and by air for days"

WIREPHOTO promptly revolutionized the news picture business. Its development to an every day function was recognized as a step equal in significance to the introduction of the Morse telegraph in 1844, the telephone in 1875, the linotype machine in 1885 and the development of high speed presses.

III.

For years The Associated Press had engaged in the collection and distribution of the news of the day. Beginning in 1848 newspapers first began to join forces in the problem of gathering news. Out of this joint endeavor there was organized, in 1893, the first and only non-profit, cooperative association of newspapers organized to exchange accurate, unbiased world news.

Paralleling this development came experiments in photography and photo engraving and an accompanying demand for pictures to illustrate the written word. Through much of the 19th century experiments in photography and photo engraving were carried on, but not until 1897 was a really practical process devised for publishing pictures in newspapers. From that point photo-engraving developed rapidly and with it came an ever increasing demand for pictures.

The science of sending photographs by wire likewise was the outgrowth of many years of experimenting. As far back as 1907 equipment for telephotography was developed by the German scientist Korn. The idea was abandoned after two years. Subsequently scientists in several nations worked on a variety of systems but none appeared to have the sure-fire, everyday use eventually developed in Associated Press WIREPHOTO.

It was not until "AP WIREPHOTO" came and was placed on an all-day, every-day basis that the twin obstacles of time and distance were overcome. To the News Photo Service of The Associated Press it meant that it could send its pictures over wires that paralleled the news wires, thereby delivering news and pictures simultaneously.

Newspapers, large and small, benefitted from the development. The AP Photo Service was expanded to meet the needs of the newspapers that operated sending and receiving stations on the WIREPHOTO network. Other newspapers elected to receive the photo prints by train or airplane from the nearest WIREPHOTO station. For smaller papers The AP began making news picture mats at strategic cities on the network and mailing these mats to its member papers. This meant, for example, that pictures of an important story could be sent from San Francisco to New York in a matter of minutes and there be made into mats for quick mailing to newspapers in the New York area. Matting bureaus were set up in other major cities and the system became nation-wide.

IV.

Hardly had WIREPHOTO passed its first test on that New Year's day of 1935 than the trial of Bruno Richard Hauptmann, accused Lindbergh baby kidnaper, came along to stir the imaginations of newspaper readers everywhere.

Throughout the trial, WIREPHOTO subscribers were able to publish quickly the pictures of Lindbergh testifying, of Hauptmann denying the murder and dozens of other pictures concerning details of the trial. WIREPHOTO thus again proved its ability to deliver pictures continuously day after day on a story that attracted nationwide attention.

And before the first year of its operation was to end, WIREPHOTO took all honors in still another great event—the crash at the top of the world that brought death to Will Rogers and Wiley Post, one a famous humorist and the other a famous aviator.

It was a Friday morning in August 1935 when an Associated Press flash brought newspapers first word of the tragedy that had overtaken the two internationally known figures at Point Barrow, Alaska. A medical missionary and a grizzled trading post storekeeper made pictures of the up-turned plane with ordinary postcard size cameras. The plane which brought the bodies from Point Barrow to Fairbanks also brought the pictures that far and another airplane relayed them across Alaska and down the Pacific coast to the nearest WIREPHOTO machine in San Francisco.

WIREPHOTO then was given credit for the greatest photo beat of the year, for in a matter of minutes after the transmission started the first pictures of the crash were in the hands of WIREPHOTO subscribers across the continent. Congratulations poured in upon The AP. WIREPHOTO had gained new recognition and back of it was perfect performance of The AP News Photo personnel and those others who made the pictures possible.

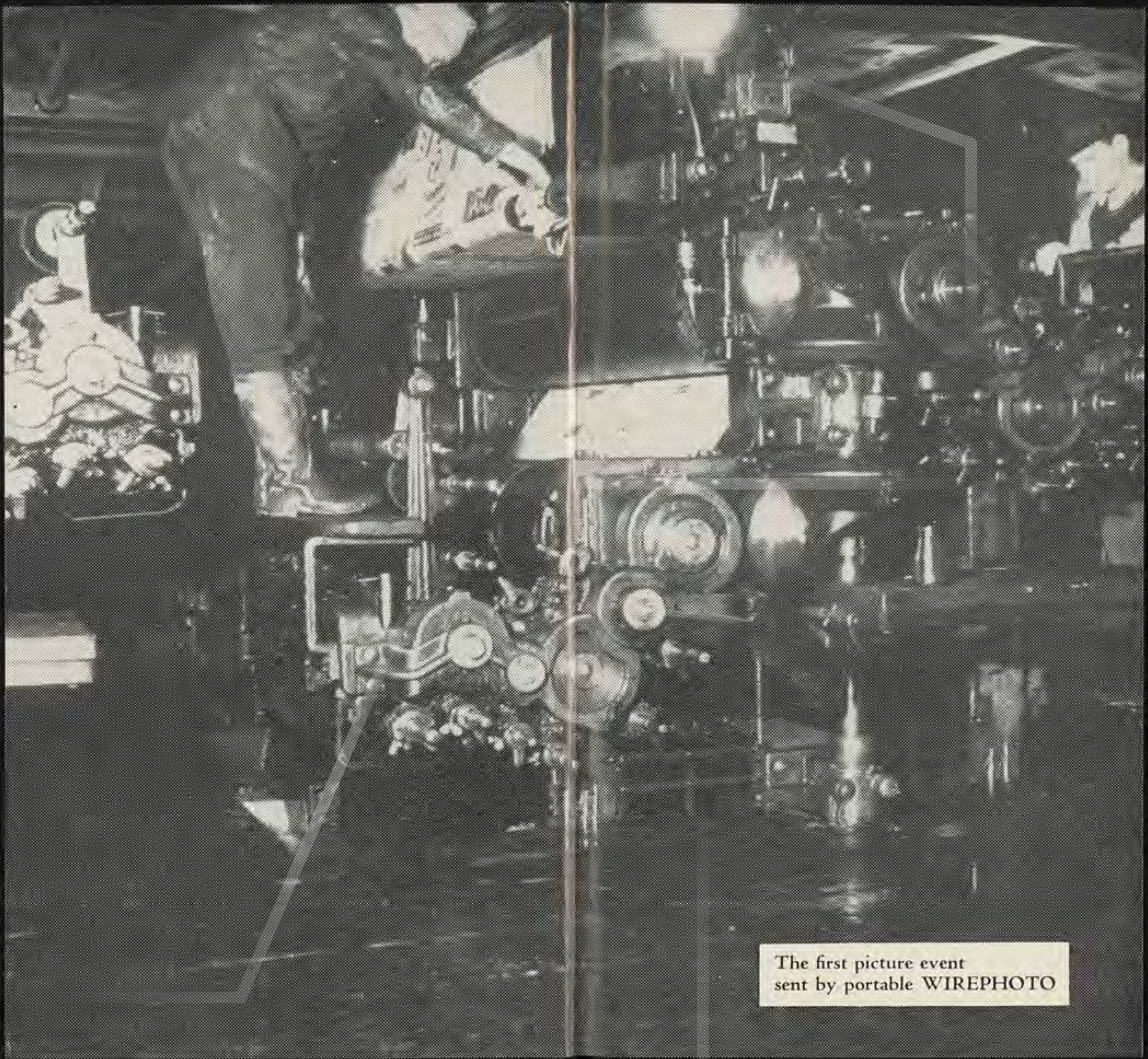
In the fall of 1935 came the annual World Series between Detroit and Chicago. It was the first world series for WIREPHOTO. The scene of the event was Navin Field, in Detroit, almost four miles from the WIREPHOTO station. The picture had to be made, a messenger had to get from the photographer's box at the front of the upper deck of the grand stand to his motorcycle outside, and then had to make his way through heavy traffic to the downtown WIREPHOTO station. The negatives had to be developed, the best selected, a print made, a caption written and the picture put on the machine for transmission.

It was 24 minutes on the opening day of the series and 21 minutes on the second day between the time the umpire called "play ball" and the first action picture started moving over the WIREPHOTO network. In each case the picture was of a play that figured in the scoring.

WIREPHOTO papers hundreds of miles away were on the street with pictures of the game almost before the game itself was over.

V.

The use of WIREPHOTO brought a new meaning to the newspaper business. Newspapers changed their picture methods overnight. No longer was the problem of delivering news photos over long distances uppermost. WIREPHOTO took care of that. Editors spent their time devising new uses for pictures. And for The



The first picture event
sent by portable WIREPHOTO

Associated Press News Photo Service emphasis suddenly was attached to the problem of getting pictures from the scene of the story to the nearest sending bureau. While it took only minutes to transmit a picture, once obtained, the necessity for fast handling between the source, wherever it might be, and the WIREPHOTO sending machine assumed new proportions. The time thus consumed was important and even greater speed was required.

The solution was the portable WIREPHOTO transmitting set, developed by Associated Press engineers. But before this newest addition to the WIREPHOTO system could be put into regular operation, there were more experiments, more study.

By the end of 1935 the experiments were well under way. With 1936 came floods to cut off whole cities, wreck power plants, close industries and destroy millions of dollars in property.

Pittsburgh, Pa., was one of those cities where the flood damage was greatest. Part of its "Golden Triangle" was under water from the sudden rise of the Monongahela and Alleghany Rivers. There were deaths, disaster and despair. Pictures of the flood were momentous news.

Would the unfinished portable WIREPHOTO transmitter do the job?

It was a test under unfavorable circumstances. The portable still was mostly an engineer's dream. Its parts lay scattered along a work bench in The AP's New York Laboratory. But it was worth trying.

Two AP engineers were ordered to Pittsburgh with boxes into which had been hurriedly tossed the queer laboratory equipment that eventually was to become the finished portable. They went by airplane to save time. Forced down at Harrisburg, they quickly chartered another plane for the final hop to Pittsburgh.

Once in Pittsburgh they hurried to a darkened building not 50 feet from the flood crest and went to work. There were no electric lights nor power. The flood had seen to that. By the light of candles, the portable's parts were set up on a table, connections made and tests begun. Neither man was sure the equipment would work, although in laboratory tests under favorable conditions their experiments had been successful.

There was no heat in the building and the temperature at times stood almost at the freezing point. The candles burned down and so they attached an automobile spotlight to a storage battery. For power to operate the hastily assembled transmitter they used more storage batteries. All one afternoon and most of the night they worked.

One test followed another. Late that night the makeshift machine was connected directly to the main WIREPHOTO network extending from coast to coast and the engineers, with earphones clamped over their heads, could hear the conversations carried on over the regular leased wire network of WIREPHOTO. Finally, after hours of adjusting and checking, the transmitter was ready for operation. The improvised switch was thrown and the cylinder began to rotate.

Minutes later along the network, the first picture ever sent by portable WIREPHOTO sending equipment was received. It was a perfect reproduction.

For several days, then, dramatic pictures of the flooded Pittsburgh area were dispatched on the WIREPHOTO network across the country. The portable idea was a success.

Subsequently the first portable operated perfectly from the roof of the grandstand at the 1936 Kentucky Derby and again at the 500 Mile Automobile race at Indianapolis where the machine was placed under the judges' stand only a few feet from the racing cars.

Further experiments were carried forward meanwhile to assemble the portable equipment in such a manner that it could be sent to any isolated spot and hooked to an ordinary telephone line for connection at some regular WIREPHOTO station to the main picture network. These experiments were successful and a portable transmitter was sent along with the photographer who was assigned to "cover" Governor Alfred M. Landon's vacation in Colorado preceding the 1936 Presidential campaign. The portable was connected to an ordinary telephone line, which in turn was hooked to the whole network. So, from a small camp in the Rocky Mountains, photos were dispatched directly into more than a score of newspapers from San Francisco to Miami.

VI.

By 1937, only two years after the start of

WIREPHOTO, The Associated Press News Photo Service doubled the field of picture coverage and increased its flexibility by placing portable transmitters in strategic locations throughout the country. Soon more than a score of these machines were in regular operation.

Weighing less than 100 pounds and contained in two cases the size of an ordinary suitcase, the portables made for quick coverage of any event. They could be sent by train, automobile or airplane to the scene of any big story, eliminating the time previously required to transport pictures to a regular sending station.

In the spring of 1937 floods again swept the eastern United States and in contrast to the makeshift machine that had been sent to Pittsburgh for trial only a year before, a battery of more than a dozen portables, neatly packed in carrying cases, was sped to the various danger spots in the flood area.

Then while air, railroad and highway traffic was paralyzed by rising waters, pictures of the amazing flood conditions were kept travelling out to the nation by means of the portable transmitters' connection to the main network of WIREPHOTO through ordinary telephone lines.

Hardly had the portable WIREPHOTO transmitter been credited with a great achievement in the 1937 floods than another event confirmed its value. At New London, Texas, the lives of close to 450 busy school children were snuffed out in a blast that shattered their school building. A portable WIREPHOTO transmitter, rushed by

". . . . almost from the scene direct into newspaper offices" airplane, was used to speed pictures of the awful tragedy almost from the scene direct into newspaper offices from coast to coast.

On the night of May 6, 1937, WIREPHOTO again took the center of the stage as a sure-fire method for transmitting pictures. The German dirigible "Hindenburg" exploded in mid-air as it approached the mooring mast at Lakehurst, N. J., after an Atlantic crossing. The WIREPHOTO network, as always, was ready for the emergency. So was an Associated Press staff photographer who caught on his film a perfect picture of the huge ship as it exploded, carrying to their deaths many of the passengers and crew. And even as the injured were being given emergency treatment in hospitals nearby, pictures of the explosion were being sent to newspapers across the country with the speed of light. All subscribing papers from Maine to San Francisco published graphic photos of the disaster along with the story.

Before the month was out strike riots brought death and injury. At South Chicago, Ill. on Memorial Day two were killed and more than a score injured in a short clash on the prairie near the Republic Steel plant. Pictures of the fighting were rushed to the Chicago WIREPHOTO station, and from there to WIREPHOTO newspapers in eight minutes.

In 1938 war clouds gathered over Europe. Hitler's armies marched into Sudetenland, Mussolini's Fascist forces gathered and Britain's umbrella-carrying Prime Minister Chamberlain hurried to and fro in desperate attempts to arrange conferences that would forestall war, conferences that finally would help keep peace. Pictures of those historic meetings were relayed by radio to America and thence by WIREPHOTO to millions of American readers. In some instances readers were studying the pictures even before the peace-extending conferences were adjourned.

On another occasion WIREPHOTO helped move a picture to Associated Press papers faster than the earth spins around the sun. The photo showed the Duke of Gloucester and his bride as they waved to the crowds from a balcony at Buckingham Palace. Sent by radio from London to New York for WIREPHOTO transmission, the picture was delivered from coast to coast just three hours and forty-seven minutes after it was taken in London, thousands of miles away.

A Louisville, Ky., newspaper was on the street at 11:30 a.m. with the picture that had been made in London at 12:30 p.m. the same day. Between Louisville and London there was, of course, a six hour difference in time, but the picture had moved to Louisville faster than the earth moves around the sun despite the time consumed in preparing for transmission.

The Fall of 1938 brought another outstanding performance by WIREPHOTO, a demonstration of its use in another way. The Atlantic coast was swept by a devastating hurricane. Long Island, Connecticut, Massachusetts, Rhode Island, all suffered heavy losses. And from the WIREPHOTO stations at New York and Boston pictures of the disaster were hurried out to anxious

The WIREPHOTO network,
as always, was ready

or amazed newspaper readers while most means of communication were crippled. The photos gave impetus to rehabilitation work.

VII.

Work had continued meanwhile in The Associated Press laboratory. Out of more experiments came the new "AP-Type" WIREPHOTO sending and receiving machine, a small outfit little bigger than an ordinary cabinet radio. These began to replace the more cumbersome equipment originally used.

At first a special room 18 feet square was needed to hold the equipment. This included two long tables for the sending and receiving machines, the control bay eight feet high and six feet wide containing the amplifiers and rectifiers necessary for transmission and the power plant, of piano box size.

But with WIREPHOTO less than four years old the new developments brought more compact equipment requiring much less space. The new transmitter and receiving set, placed near an editor's desk, required no more room than a pair of office desks. The receiver operated on any telephone circuit and on any available electric current. Mechanically it was an improvement over the type first used. It brought at the same time a reduction in operation costs through use of smaller negatives and smaller photoprint paper.

The principle of the invention, however, remained unchanged.

VIII.

The heart of WIREPHOTO, the system that revolutionized modern news-gathering, is the photo-electric cell. It provides the solution to the problem of how to get pictures from one place to another along with the news. It is the key to WIREPHOTO's sensitive apparatus.

This is the way WIREPHOTO works:

The photo-electric eye "looks" at the photo on the sending apparatus, transforms what it "sees" in light and dark portions of the photograph into electrical impulses of varying intensity. These travel over the wires at the rate of 100,000 impulses per minute. So perfect is the synchronization that each of these impulses is recorded on the revolving film at exactly the same fraction of a second in every one of the thirty-two cities on the 10,000 mile wire network. No such precision of operation and control is to be found in other mechanical equipment in the world.

An ordinary positive photo print is wrapped around a cylinder on the sending machine while an unexposed negative is placed on an enclosed cylinder of the receiving machine. Attendants along the leased wire network make 20 second tests to make sure the proper amount of current is being applied. Then the attendant at the sending point presses a button on his machine that starts, at the same instant, every receiving machine along the line from a dozen to thousands of miles away.

As the cylinder on the sending machine ro-

". . . . to anxious or amazed newspaper readers" tates, the scanning equipment containing the photo-electric eye moves on a carriage similar to a machine shop lathe horizontally alongside the picture on the cylinder. A beam of light is thrown on the picture through a tiny aperture one hundredth of an inch square while the cylinder bearing the picture revolves. This beam of light reflects off the photographic print into the photo-electric eye where the reflected light rays — strong or weak as the light or dark portions of the picture rotate past — are transformed into electrical impulses.

These electrical impulses are "built up" by means of amplifiers to travel the thousands of miles that may be necessary to reach the receiving point. Here they are adjusted to suitable strength for feeding into the receiving machine.

On the receiving machine is the lightproof or light-sealed cylinder mounted on a lathe-like arrangement similar to the cylinder on the sending machine.

Inside this lightproof cylinder is the unexposed film. The electrical impulses coming from the sending machine pass off the line to an electric bulb which is lighted to a degree of brightness varying in proportion to the strength of the current received. The strength of this current which lights the bulb in turn depends upon the shades of light and dark found on the original print at the sending end.

The light from this bulb, located near the negative, is focused through a lens to less than pin point size so that it strikes the negative on the receiving cylinder as it revolves in perfect synchrony with the picture on the other end of the wire. The negative or film is thus exposed in exact proportion to the amount of light reflected from the original picture on the sending cylinder. The machines stop automatically when the transmission is completed.

The negative is taken to a dark room a few steps from the machine where it is developed and a print made. The finished print, to be given to the editor, is exactly like the one at the sending station.

And the time thus taken up in the transmission of a picture is only eight minutes.

The identification or "caption" material accompanying the picture is typed by an editor at the sending station on a strip of gummed paper and pasted to one end of the photographic print being sent. The typewritten caption rides along the wires in the same manner as the picture itself and is reproduced in the received picture.

WIREPHOTO thus is not limited solely to transmission of pictures. It can carry all manner of graphic material which will tell the news more completely. Maps, graphs, weather charts, letters that become exhibits in court trials or at government hearings, diagrams or even finger prints can be sent and received the same as a picture. All stations on the network can receive the same picture at the same time from the one original print at the sending station.

". . . . and from there to WIREPHOTO newspapers in eight minutes"

Between intervals of transmission the network is used for telephone conversation concerning arrangements for getting new pictures or instructions from men in charge of the photo service to staff photographers along the line. An editor sits at his desk and speaks into an ordinary telephone and his voice is heard simultaneously in each of the cities on the network. Any editor or photographer at one or more of the other stations can converse with him just as an ordinary telephone conversation is carried on. This is called the "conference hook-up."

The network normally operates from 7 a.m. to 1 a.m., delivering an average of 60 pictures daily. If big news breaks, the network can be kept functioning continuously. It now operates from Toronto to Maine and from Miami to Seattle.

IX.

Research, experiments, tests continue constantly in The Associated Press laboratory with the aim that newspapers and newspaper readers may benefit from the newest development of science in the huge task of gathering and presenting the news.

WIREPHOTO, fathered by The Associated Press, is a reality. Now news and pictures ride the wires side by side to tell the reader a quick story of a busy, ever-changing world. That is the story of WIREPHOTO as it is today, and even now the story of its brilliant future is being charted in the busy laboratories on the fifth floor of The Associated Press headquarters at 50 Rockefeller Plaza, in New York City.